



Recreational and Drinking Water Disease Prevention

What is contaminated water?

Contaminated water is water that contains sewage or feces from humans or animals.

What is untreated water?

Untreated water is water that has not been boiled, filtered, or disinfected with chemicals.

What is recreational water?

Recreational water includes: water in swimming pools, hot tubs, jacuzzis, fountains, lakes, rivers, springs, ponds, streams, sprinkler systems and garden hoses, and secondary water.

What is safe drinking water?

Drinking water that has been adequately treated with the minimum recommended standards of the Safe Drinking Water Act passed by Congress in 1974.

Drinking Water

• Risks

- Drinking untreated water is a risk because many parasites, bacteria, and viruses can be present in the water. Even if the water appears clean, it can still be contaminated and cause illness.
- Drinking from shallow wells can be a risk because animal waste that contaminates the ground water may seep into the well. Contamination can occur if the well has cracked casings, is poorly constructed, or is too shallow. Runoff from rain or floodwater may also drain into the well, causing contamination.

• Prevention

- Do not drink untreated water.
- Have well water tested if:
 - You suspect family members are becoming ill from contaminated water.
 - Your well is at the bottom of a hill or is shallow.
 - Your well is located close to where animals graze.
- If you cannot avoid drinking water that might be contaminated, consider the following:
 - * **Bottled Water:**
 - Drink bottled water from a trusted source, and make sure the bottle seal is intact.
 - * **Boiling Water:**
 - Boiling water is the recommended method for killing bacteria, parasites and viruses that contaminate water.
 - Heat the water to a rolling boil for at least 1 minute. At altitudes greater than 6,562 feet boil water for 3 minutes or use chemical disinfection after water has been boiled for 1 minute.
 - * **Filtered Water:**
 - Water filters are designed to remove various contaminants from water. Water filters pass water through a filtering element (physical or chemical), and the contaminants are removed or neutralized. Physical filters are measured in microns, and 1 micron equals 1/25,000 of an inch. The smaller the micron number, the more particles will be removed from the water.
 - Use a water filter that has an absolute pore size of at least 1 micron or one that has the NSF trademark and is rated for "cyst removal." Cyst removal will filter and protect

against *Giardia* and *Cryptosporidium*. For more filter information you can contact the National Sanitation Foundation (NSF) at 1-877-867-3435 or visit their website at www.nsf.org/certified/DWTU

- Most of the portable filters on the market do not effectively remove viruses. Chemical disinfection of water is needed after filtering to make sure the water is safer to drink.

* **Chemical Disinfection:**

- If you cannot heat water to a rolling boil or use a recommended filter, then chemically treat water by chlorination or iodination.
- Chemical disinfection tablets can be purchased from pharmacies and sporting goods stores.
- Cloudy water should first be strained through a clean cloth into a container to remove any sediment or debris; then proceed with chemical water treatment.
- Follow all of the manufacturer's instructions.

Note: Chemical disinfection cannot be relied on to kill all parasites.

Note: Water that is treated with iodine is not recommended for pregnant women, people with thyroid problems or people with hypersensitivity to iodine. Check with your doctor for more information.

Swimming or Recreational Water

• **Risks**

- Swallowing even small amounts of recreational water that is contaminated can cause illness.
- Children playing in sprinklers can be at risk because outdoor water is sometimes untreated.

• **Prevention**

- To avoid contamination of recreational water, including swimming pools, protect other people by not swimming if you are experiencing diarrhea.
- Take a shower before swimming.
- Avoid swallowing recreational water.
- Wash your hands after using the toilet or after changing a diaper.
- Change diapers in a bathroom and not near recreational water.
- Avoid beaches that may be contaminated with human sewage or animal (including dog) feces.

Camping or Hiking

• **Risks**

- Backpackers, hikers, and campers who drink unfiltered, untreated water can be at risk.

• **Prevention**

- Refer to "Drinking Water Prevention" (above).

Traveling in countries where the water supply might be unsafe

• **Risks**

- Traveling to international countries may be a risk because there may be poor sanitation standards, leading to increased risk for contaminated drinking water.
- Drinking unpasteurized fruit drinks may be a risk because water in the juice may be untreated, or the fruit used to make the juice may not have been properly washed.

• **Prevention**

- Avoid salads, uncooked vegetables, and unpasteurized milk or juices.
- Wash fruits and vegetables in clean water before peeling.
- Only drink fresh juice if you know how it was made.

- Avoid eating uncooked foods.
- Do not use untreated ice or drinking water.
- When drinking bottled water or soft drinks while traveling outside the United States, remember the water on the outside of the bottle may not be safe. Completely dry off the lid and surrounding area before opening the beverage.
- Refer to <http://www.cdc.gov/travel/foodwater.htm> for Centers for Disease Control and Prevention information.

Food Contaminated with Untreated Water

• Risks

- Eating unwashed fruits and vegetables from your garden can be a risk because outdoor water used for watering may be untreated.
- Fruits and vegetables imported from foreign countries may be a risk because of poor sanitation conditions in the country of origin.
- Unpasteurized milk or fruit drinks may be a risk because if contamination occurs, there are no safeguards to prevent illness. Fruit may fall on the ground and become contaminated, or milk may be contaminated in processing.

• Prevention

- Wash all fruits and vegetables with clean water before eating.
- Use safe, treated water to wash all food that is to be eaten raw.
- Avoid unpasteurized fruit drinks and milk.
- Wash and/or peel all raw vegetables and fruits before eating.

Pet Owners:

• Risks

- Animals may become infected with diseases that can then be spread to humans.
- Dogs can become infected with parasites the same way humans can by drinking untreated contaminated water.

• Prevention

- Pet owners should avoid allowing their pets to drink untreated water.
- Have your pet regularly treated by a veterinarian for vaccinations and worming.
- Do not allow your pet to eat raw food or drink out of the toilet.
- Clean your pet's area at least once a week. Bury feces or place in a plastic bag and put in the trash.
- Litter boxes should be cleaned daily and dirty litter placed in a plastic bag in the trash.
- Cover children's sandboxes when not in use.
- Children should avoid areas contaminated with animal feces.
- Always wear shoes or sandals in areas where animal feces is, or has been, located.
- Use good hand washing techniques after cleaning up animal feces.